

REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 55-67 will be pending in the application subsequent to entry of this Amendment.

Response to Claim Rejections Under 35 USC §112/Discussion of Claim Amendments

The claims have been reviewed and amended in order to more particularly point out and distinctly claim that which applicants regard as their invention and to direct them to preferred aspects of the disclosure as well as to respond to the examiner's comments on page 2 of the Official Action. For convenience a new set of claims is presented.

The claims presented above specify the basic substance used in the invention is limited to NaOH or a combination of NaOH and KOH. As for the embodiment using basic amino acids as featured in previous claims 38-53, applicants reserve their right to later file a divisional application directed to this subject matter.

The new claims define a degree of precipitation.. The degree of precipitation can be measured by the method described on page 15, lines 10-17 of the specification.

The new subclaim dependent on method claim 55 specifies that the NaOH (or NaOH in combination with KOH) is added so as **not** to raise pH of the beverage before the heat sterilization higher than 8. This is described on page 9, line 22 of the specification.

In the lack of clarity rejection, the examiner asserts that "it is not clear as to what the percentage amounts are in reference to". Taking this comment into account, the amount of each ingredient is defined in the new claims by weight percent per volume of the beverage. This amendment is supported by the description of the Examples in the specification.. The term "in terms of solid portion" used to define the amount of the coffee component and the milk component is described in the second paragraph on page 8 and the first paragraph on page 9 of the specification.

Applicants submit that the revised and amended claims as presented above are compliant with 35 USC §112, second paragraph and serve to focus on important aspects of the disclosure and feature these aspects in the claims themselves.

Response to Claim Rejections Under 35 USC §102(b)

Previous claims 18 and 30, as well as their dependent claims, are rejected as allegedly anticipated by Sasagawa et al. To the extent this reference is thought to pertain to the new claims submitted above, it is traversed.

Sasagawa et al do not anticipate the present invention, since the technical concepts are completely different between the present invention and that of Sasagawa et al. Sasagawa et al disclose a pH adjustor for drinks in general, comprising a potassium salt as an active ingredient. It is described that the pH adjustor is capable of suppressing the deterioration of aroma and/or taste due to lowering of pH by retort sterilization.

In contrast, the present invention has provided a very convenient method for suppressing the formation of precipitates in the production of a milk-added and heat-sterilized coffee beverage. No skilled person has considered that the formation of precipitates would be suppressed to such a low level, i.e., less than 0.1 ml/10 ml as claims 55 and 61 clearly state simply by using NaOH (by itself or in combination with KOH). In accordance with the present invention, the amount of NaOH added is controlled such that the milk-added coffee beverage before the heat-sterilization does not exceed pH 8.0 – see claims 59 and 64 in this regard. Sasagawa et al by no means anticipates such a surprising effect achievable by the easy to carry out method applicants claim.

Furthermore, and importantly, the use of NaOH (singly or even in combination with KOH) to suppress the formation of precipitates in a milk-added coffee beverage is not actually described in Sasagawa et al.

The examiner states in the Official Action that Sasagawa et al further discloses the presence of sodium hydroxide in combination with the potassium hydroxide, by specifically pointing out col. 2, lines 13-26; col. 4, lines 16-18 of Sasagawa et al. In fact, column 2, lines 25-26 of Sasagawa et al reads: "The potassium salt may be combined with a sodium salt", and col. 4, lines 15-17 reads: "The potassium salts can be combined with other ingredients, for example, sodium salts such as -- sodium hydroxide and the like".

However, applicants submit that Sasagawa et al merely did not exclude the combinations of potassium salts and sodium hydroxide as one possible pH adjustor, although they considered that such combinations would be possible but not preferred, since they also state in column 1,

lines 46-56 that "the use of sodium salts such as sodium bicarbonate, disodium hydrogenphosphate and the like for pH adjustment causes saltiness, sliminess and a bad after-taste in drinks, which results in the deterioration of their characteristic aromas and tastes".

In fact, no actual use of NaOH is disclosed in Sasagawa et al. The Examiner is reminded claims 55 – 60 are directed to a method of suppressing precipitates and not compositions *per se*. Even the suggested combination of potassium salts with NaOH is not actually disclosed in Sasagawa et al. At least in so far as milk-added coffee beverage is concerned, applicants cannot find any description of NaOH, nor any combination of KOH and NaOH.

Therefore, there is no teaching in Sasagawa et al to motivate and encourage a person of skill in this art to use NaOH, singly or even in combination with KOH, as an agent to suppress the formation of precipitates during heat sterilization in the process of producing a milk-added heat-sterilized coffee beverage. In clear contrast to this, the experimental examples of the present application prove the successful suppression of precipitation formation is possible by using NaOH in various cases.

Previous claims 30 and 36 are rejected as being anticipated by Chrysler et al. To the extent this reference is thought to pertain to the new claims submitted above, it is traversed.

The examiner states that "Chrysler et al discloses a coffee product containing a milk component that contains sodium hydroxide which had been used to treat the milk component wherein sodium bicarbonate is not present (e.g., col. 1, lines 1-3 and 42-53; col. 2, lines 4-23)."

However, applicants note that Chrysler et al describe in column 8, lines 30-34 that "The hot coffee test showed that this cream readily dissolved and was stable toward coagulation and feathering when added to hot coffee (temperature 180°F) ---". Thus, applicants agree that the milk of Chrysler et al is stable at 180°F, which is about 83° Celsius.. However, applicants do not believe that the milk of Chrysler et al is stable under the much higher sterilizing conditions, e.g., 125°C for 20 minutes (page 15, line 7 of the specification), in the process of producing a heat sterilized beverage. Accordingly, applicants submit that Chrysler et al is not relevant to the milk-added and heat-sterilized coffee beverage of the present application which contains precipitates formed by the heat-sterilization at less than 0.1 ml/10 ml.

In short, the disclosure of Chrysler et al is not relevant to the suppression of precipitation formation during heat-sterilization to which applicants' claims are directed.

The rejection directed toward claim 36 in item 6 of the Official Action is addressed in the remarks presented above.

A separate rejection directed to claims 33-35, item 8 of the Official Action, is rendered moot by virtue of cancellation of these claims.

Response to Claim Rejections Under 35 USC §103(a)

Claims relating to the use of a strongly basic substance are rejected over Ohtake taken together with Sasagawa.

Ohtake relates to the long term preservation of coffee extract. It is important to note that the "coffee extract" in Ohtake is a coffee extract which has a high concentration of solids content, and hence, is diluted before drinking (column 1, lines 14-20). Ohtake solved the problem that some components in such highly concentrated coffee extracts tend to become insoluble and precipitate during long-term preservation. This will be more apparent from the fact that Ohtake employs a coffee extract with soluble solids concentration (Bx) of 15 degrees. (column 3, lines 1-2) The extract was sterilized for 30 seconds at 135°C in a bag and the evaluation was conducted after preserving 30 days at 25°C. In the evaluation, the preserved coffee was diluted so that the soluble solids concentration was 1.5 degrees (column 3, line 8).

Since Ohtake's high concentration coffee extract is diluted about tenfold before being consumed, it is beyond doubt that Ohtake's coffee extract is not to be directly mixed with a milk component to produce a milk-added coffee beverage. This difference also explains the fact that the precipitate formation during long term storage of a high concentration coffee extract, and the precipitate formation of milk-added coffee beverage during heat-sterilization, are totally unrelated phenomena. Ohtake does not even remotely suggest that his coffee extract is suitable to suppress precipitate formation in producing a milk-added heat-sterilized coffee beverage. Hence, Ohtake is not relevant to the suppression of precipitate formation during heat-sterilization mainly due to milk or its interaction between coffee components.

Accordingly, in applicants' opinion, Ohtake is not particularly relevant to the present application. The relevancy to the claims of the combination of Ohtake and Sasagawa et al is no greater than the relevancy of Sasagawa et al taken alone, and applicants have already explained that Sasagawa et al is not relevant to the novelty and unobviousness of the present invention.

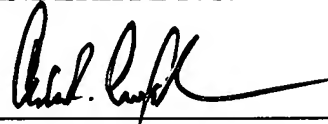
YOKOO et al
Appl. No. 10/021,434
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For the above reasons it is respectfully submitted that the claims of this application define inventive subject matter. Reconsideration and allowance are solicited.

Respectfully submitted,

NIXON & VANDERHYTE P.C.

By: _____



Arthur R. Crawford
Reg. No. 25,327

ARC:eaw
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100